REMARKS

This amendment is in response to the Office Action dated May 20, 2003. Claims 1-48 are pending in the application.

In the Office Action, the Examiner objected to the title as not being descriptive. Further, claims 1, 17, 26 and 46 were objected to as including the term "control" in the preamble where no control is exerted in the rest of the claim. Further, claims 30 and 48 were objected to as seeming to be more appropriately dependent on a different claim than as is specified. Further, claims 1-48 were rejected as being anticipated by U.S. Patent No. 6,005,759 ("Hart").

Each of the rejections from the Office Action of May 20, 2003 is discussed below in connection with the various claims. No new matter has been added. Reconsideration of the application is respectfully requested in light of the amended claims and the following remarks.

I. OBJECTIONS

The Examiner objected to the title of the present application as not being descriptive. With this response, the title has been amended to be more descriptive of the invention to which the claims are directed.

The Examiner objected to claims 1, 17, 26 and 46 as including the term "control" in the preamble where no control is exerted by the claimed energy meter on the distribution of electrical energy. With this response, claim 1, 17, 26 and 46 have been amended for clarity and not for reasons related to patentability. These amendments are supported by the specification and no new matter has been added.

The Examiner objected to claim 30 depending on claim 25 as it seems to be more appropriately depend from claim 26. Appropriate correction has been made.

The Examiner objected to claim 48 depending on claim 46 as it seems to be more appropriately depend from claim 47. Appropriate correction has been made.

Accordingly, the Applicants request that the Examiner withdraw these objections.

II. REJECTIONS UNDER 35 U.S.C. § 102(b)

Independent Claims 1, 17, 26 and 46 were rejected under 35 U.S.C. § 102(b) as being anticipated by US Patent No. 6,005,759 ("Hart"). With this response, Claims 1, 17, 26 and 46 have been amended for clarity. Support for this amendment can be found in the Specification and no new matter has been added. Applicants submit that Hart does not anticipate independent claims 1, 17, 26 or 46 as the cited references fails to disclose all the elements of the claims.

Independent claim 1, as amended, relates to an energy meter for managing the distribution of electrical energy including at least one sensor coupled with an electric circuit and operative to sense at least one electrical parameter and generate at least one analog signal indicative of the electrical parameter, *a housing*, at least one analog to digital converter ("ADC") *located in said housing* coupled with the sensor and operative to *receive the analog signal* and convert the analog signal into at least one first digital signal, a communications port *located in said housing* operative to facilitate communication of at least one second digital signal between the energy meter and a slave device coupled with the energy meter using a first protocol, a processor *located in said housing* coupled with the ADC and coupled with the communications port with the *processor operative to perform a power management function on the second digital signal* and generate an output result, a server module *located in said housing* coupled with the processor and operative to facilitate communication of the output result to a client application over a digital network using the second protocol to manage the distribution of electrical energy.

Independent claim 17, as amended, relates to a system for managing the distribution of electrical energy in an electric circuit comprising: a first digital network comprising a first protocol, a second digital network comprising a second protocol different from the first protocol, a first slave device coupled with the first digital network with the first slave device operation to facilitate communication of digital data on the first digital network using the first protocol, a master device coupled with the first digital network and the second digital network further comprising at least one sensor coupled with the electric circuit and operative to sense at least one electrical parameter in the electric and generate at least one analog signal indicative of the electrical parameter, *a housing*, at least one ADC *located in said housing* coupled with the sensor and operative to *receive the at least one analog signal* and convert

the at least one analog signal into a representative digital signal, a communications port *located in said housing* operative to couple the master device with the first digital network and to facilitate receipt of the digital data from the first digital network using the first protocol, a processor *located in said housing* coupled with the ADC and further coupled with the communications port with the *processor operative to perform a power management function on the digital data* and generate an output result, a server module *located in said housing* coupled with the processor and operative to facilitate communication of the output result over the second digital network using the second protocol to manage the distribution of electrical energy in the electric circuit.

Independent claim 26, as amended, relates to a system for managing the distribution of electrical energy in an electric circuit, the system comprising: a digital network, a master device and slave device each couple with the digital network and each further comprising: at least one sensor coupled with the electric circuit and operative to sense at least one electrical parameter in the electric and generate at least one indicative analog signal, *a housing*, at least one ADC *located in said housing* coupled with the sensor and operative to *receive the at least one analog signal* and convert the at least one analog signal to representative digital data, a communications port *located in said housing* coupled with the ADC and operative to facilitate communication of the digital data onto the digital network, a processor *located in said housing* coupled with the ADC with the *processor operative to perform a power management function on said digital data* and generate an output result wherein the master device further comprises a server module *located in said housing* coupled with the processor of the master device and operative to facilitate communication of the output result on a second digital network using a first protocol where the first protocol comprises an open protocol, to manage the distribution of electrical energy in the electric circuit.

Independent claim 46, relates to a method for managing the distribution of electrical energy in an electric circuit comprising the steps of a) computing a first data value in a slave device coupled with a first network, the first network implementing a master protocol, b) transmitting the first data value to a master device from the slave device over the network, c) receiving the first data value by the master device, d) receiving at least one analog parameter *by the master device* from a power distribution network coupled with the master device, e) *performing at least one power management function by the master device on said first data*

value and generating a result, f) providing the result *by the master device* to a client application coupled with a second network, the second network implementing an internet protocol, to manage the distribution of electrical energy in the electric circuit.

Hart discloses "a system for monitoring and controlling an electrical distribution network comprises an electrical distribution substation having a local area network ("LAN"), a feeder subsystem and a gateway. The feeder subsystem is coupled to the substation and receives electrical energy therefrom for distribution to customers, and includes slave devices for performing switching functions. The gateway provides remote access to the slave devices and the LAN." *See* Hart, Abstract.

A. Independent Claims 1, 17, 26 and 46

Hart fails to disclose "at least one sensor coupled with an electric circuit and operative to sense at least one electrical parameter in said electric circuit and generate at least one analog signal indicative thereof" and "at least one analog to digital converter" located in a housing and "coupled with said sensor and operative to receive said analog signal and convert said analog signal to at least one first digital signal" wherein the housing further encompasses a communications port, processor and server module, the communications port being operative to "facilitate communication of at least one second digital signal between said energy meter and a slave device coupled with said energy meter using a first protocol..."

Hart discloses instead a "subsystem 40 comprising industrial parks 42 and feeders 44 that provide information through intelligent electronic devices (IEDs) 43 and 45." *See* Hart, Col. 4, lines 14-16. Hart fails to disclose what electrical distribution management functions the IEDs 43 and 45 actually perform.[1] The subsystem 40 is connected with a substation 10 via a network 41. *See* Hart, Figure 1; Col. 4, lines 11-14 and Col. 14, line 62. "The substation 10 comprises a local area network (LAN) 15, a gateway 17, and an intelligent controller 19. The LAN 15 is a conventional network comprising data processing units, circuit breakers, relays, and transmitters.... The gateway 17 provides a communications

[1] In describing the IEDs 43 and 45, the only electrical distribution function that Hart describes the IEDs 43 and 45 as performing is that a "... time stamped peak demand is recorded by the IED and is preferably substituted for the manually entered value after one year." *See* Hart, Col. 13, lines 40-42.

interface for data acquisition for ... the subsystem 40. The intelligent controller 19 (or switch controller) ... *monitors power quality.*" (emphasis added). *See* Hart, Col. 4, lines 17-27. *See* also Hart, Col. 8, lines 29-30 and Col. 9, lines 7-8.

Hart further discloses how the intelligent controller 19 accomplishes the monitoring of power quality. *See* Hart, Col. 9, line 1 – Col. 13, line 49. However, Hart is unclear as to what is being monitored for power quality, how the data reaches the intelligent controller 19 or what components of the intelligent controller 19 actually monitor power quality. Hart fails to disclose where the analog current and voltage signals are being sensed from in the electrical distribution system, i.e., Hart fails to disclose that the intelligent controller 19 or IEDs 43 and 45 are performing the sensing function, noting only that "[a]nalog current and voltage signals Ia, Ib, Ic, Va, Vb, and Vc are collected from current transformers and potential transformers, assuming a three phase system. Analog voltage and current signals propagating over power transmission lines between the power generator of the electrical service provider and the users of the electrical energy are sensed by voltage dividers and current transformers or shunts, respectively (not shown). The outputs of the resistive dividers and current transformers, or sensed voltage and current signals, are provided to the inputs of an analog to digital (A/D) converters 315 for conversion to digital signals." *See* Hart, Col. 10, lines 19-29 and Figure 3B. However, neither the intelligent controller 19 nor the IED 43, 45 is shown by Hart to include an A/D converter 315 or, for that matter, any of the other components of the exemplary power quality monitoring subsystem of Figure 3B of Hart.

Therefore, while Hart may disclose some of the individual elements of Applicants' claims, Hart fails to disclose these elements in the claimed combination, how those elements are interconnected and their claimed functions.

Assuming that the monitoring of power quality is performed by the intelligent controller 19 of Hart using analog current and voltage inputs provided by the IED's 43, 45, Hart still fails to disclose Applicants' claimed invention as Hart fails to disclose that the analog to digital converter, located in a housing with the communications port, processor and server module, receives the analog signal generated by the sensor that is coupled with the electric circuit, as claimed. As noted above, Hart discloses that the IEDs 43 and 45 are coupled with the intelligent controller 19 via the network 41 and gateway 17. See Hart,

Figure 1. The network 41 is described as a digital network. *See* Hart, Col. 14, line 50 – Col. 15, line 49. Therefore, the analog signals provided by the IEDs 43 and 45 must be converted to digital signals at the IED 43 and 45 for transmission over the digital network 41. *See* Hart, Col. 13, line 50 generally. As these digital signals are the only disclosed signals that the intelligent controller 19 could be receiving from the IEDs 43 and 45, it is these digital signals that must be processed by the intelligent controller 19 to monitor power quality. Therefore, Hart fails to disclose the Applicants' claimed analog to digital converter.

In addition, assuming that the IED 43 and 45 comprises an analog to digital converter, which is not disclosed, to convert sensed analog electrical parameters, which is not disclosed, to digital form for transmission over the network 41, then Hart fails to disclose that the analog to digital converter is located in a housing with the communications port, processor and server module, as claimed in Applicants' claims.

Further Hart fails to disclose "...a communications port operative to facilitate communications of at least one second digital signal between said energy meters and a slave device coupled with said energy meter using a first protocol; a processor coupled with said analog to digital converter and further coupled with said communications port, said processor operative to perform a power management function on said at least one second digital signal and generate an output result." Specifically, Hart discloses that the response from the slave device is passed through, unchanged or processed, to the original requesting master encapsulated in the first protocol response. *See* Hart Col 13, lines 55-65. The gateway device receives a first protocol request eventually destined for the slave device, un-encapsulates the second protocol request from the first protocol request, transmits the second protocol request to the slave device, receives the second protocol response from the slave device and re-encapsulates the second protocol response in a first protocol response packet and transmits to the first protocol master (and origin of the original request). *See* Hart Fig 6B, Col 14, lines 9-14. During the re-encapsulation the second protocol response is not processed or otherwise used in any power management functions to generate an output result. *See* Hart, Col 14, line 28-49.

For at least these reasons Hart does not anticipate independent Claims 1, 17, 26 and 46. Accordingly, Applicant requests that the Examiner withdraw this rejection of these claims.

B. Dependent Claims 2-16, 18-25, 27-45, 47-48

Dependent Claims 2016, 18-25, 27-45, 47-48 were also rejected under 35 U.S.C. § 102(b) as being anticipated by Hart. The allowability of the dependent claims follows from the independent claims which should be allowed for the reasons set out above.

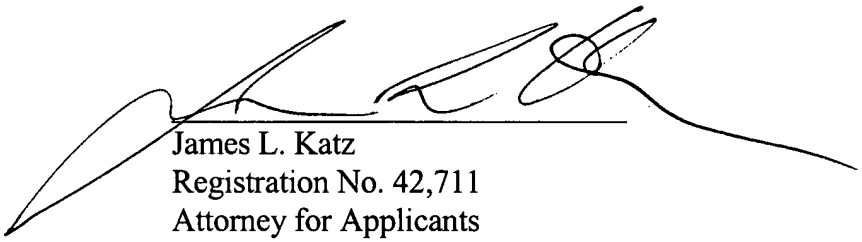
Further, additional limitations of these dependent claims also distinguish over the cited reference. For example, the cited reference fails to disclose: using at least one object oriented program module as in Claim 13, where said power management function comprises generating an alarm message as in Claim 20, where said power management function comprises generating a load shedding command as in Claim 21, where said power management function comprises generating a power factor control command as in Claim 22, wherein said master device comprises a revenue meter as in Claim 27, wherein said master device is operative to export said output result to a third device as in Claim 39, wherein said third device is operative to perform a power management function on said digital data as in Claim 40, wherein said power management function comprises an aggregation function as in Claim 41, wherein said power management function comprises a billing function as in Claim 42, wherein said power management function comprises a protection function as in Claim 43, wherein said power management function comprises a control function as in Claim 44.

For at least these reasons Hart does not anticipate dependent Claims 2-16, 18-25, 27-45, 47-48. Accordingly, Applicant requests that the Examiner withdraw this rejection of these claims.

CONCLUSION

Each of the rejections in the Final Office Action dated May 20, 2003 has been addressed and no new matter has been added. Applicant submits that all of the pending claims are in condition for allowance and notice to this effect is respectfully requested. The Examiner is invited to call the undersigned if it would expedite the prosecution of this application.

Respectfully submitted,



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